

# INSTRUMENT PANEL - STANDARD

1988 Toyota Celica

1988 SWITCHES & INSTRUMENT PANELS  
Toyota - Standard

Camry

## DESCRIPTION & OPERATION

### GAUGES

Some instrument panels are equipped with a tachometer, oil pressure gauge and voltmeter. Gauges may be either 2-terminal, bi-metallic type or 3-terminal, coil type. The 2-terminal type gauges are generally used on models without tachometers.

### SWITCHES

All models have a combination switch on the steering column. For removal and installation, see STEERING WHEEL & COLUMN SWITCHES in this section.

## TESTING

### FUEL GAUGE & WARNING LIGHT

1) Unplug connector at fuel tank sending unit. Connect a 12-volt, 3.4-watt test light between lead wire and ground. Turn ignition on. Test light should flash and needle should vibrate.

2) Turn ignition off. Connect ohmmeter to sending unit terminals. Move sender arm and ensure resistance varies within specifications. See FUEL SENDING UNIT RESISTANCE table. Gauge pointer should move when sender is connected and float arm is moved.

FUEL SENDING UNIT RESISTANCE TABLE

Model	Float Position	Ohms
Camry .....	Full .....	2-5
" .....	Empty .....	107-113
Land Cruiser .....	Full .....	15-19
" .....	Half .....	35-45
" .....	Empty .....	113-127
All Others .....	Full .....	1-5
" .....	Half .....	28-37
" .....	Empty .....	102-118

3) To check low fuel warning light sensor, remove fuel sender from tank. Connect battery voltage to sensor terminal. Connect a 12-volt 3.4-watt test light between body of sending unit and ground. With sensor dry, light should come on within 40 seconds. With sensor in gasoline or water, light should not come on.

4) Check gauge resistance by measuring across terminals with ohmmeter. See Figs. 19 - 31. Ignition must be off and connector unplugged. See FUEL & TEMPERATURE GAUGE RESISTANCE table.

FUEL & TEMPERATURE GAUGE RESISTANCE TABLE

Model	Term.	Fuel	Temp.
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Type	Conn.	(Ohms)	(Ohms)
Camry	A-B	100	55
"	A-C	200	145
"	B-C	100	200
Celica	IG-FU	102	N/A
"	FU-E	101	N/A
"	IG-E	203	146
"	IG-TU	N/A	56
"	TU-E	N/A	202
Corolla Sedan & Wagon w/o Tachometer		C-D	55
..... N/A			
"	A-B	N/A	55
Sedan w/ Tachometer	A-B	100	
55			
"	A-C	200	145
"	B-C	100	200
Coupe	A-B	85	55
"	A-C	250	135
"	B-C	160	210
Corolla (FX, FX-16)	1-2	(1) 55	N/A
"	(2) IG-FU	102	N/A
"	(2) FU-E	101	N/A
"	(2) IG-E	203	N/A
"	(1) 1-2	N/A	55
"	(2) IG-TU	N/A	56
"	(2) TU-E	N/A	202
"	(2) IG-E	N/A	146
Cressida	IG-FU	92	N/A
"	FU-E	116	N/A
"	IG-E	208	135
"	IG-TU	N/A	54
"	TU-E	N/A	210
Land Cruiser	A-B	55	N/A
MR2	IG-FU	102	N/A
"	FU-E	101	N/A
"	IG-E	203	146
"	IG-TU	N/A	56
"	TU-E	N/A	202
Pickup & 4Runner	1-2	(1) 55	
.. N/A			
"	IG-FU	(2) 83	N/A
"	FU-E	(2) 156	N/A
"	IG-E	239	(2) 273
"	1-2	N/A	(1) 25
"	IG-TU	N/A	(2) 135
"	TU-E	N/A	(2) 138
Supra	IG-U	103	56
"	U-E	65	202
"	IG-E	167	146
Tercel Sedan	C-D	55	N/A
"	E-F	N/A	55
Tercel Wagon	IGN-FU	(1) Continuity	N/A
"	IGN-FU	(2) Continuity	N/A
"	FU-E	(2) Continuity	N/A
"	IGN-E	(2) Continuity	N/A
"	TU-1	N/A	(1) Continuity
"	IGN-TU	N/A	(2) Continuity
"	TU-E	N/A	(2) Continuity
"	IGN-E	N/A	(2) Continuity
Van	IG-FU	(1) 125	N/A
"	FU-E	(1) 55	N/A
"	IG-E	(1) 70	N/A

"	.....	1-TU	.....	N/A	.....	(1)	55
"	.....	IG-FU	.....	(2)	64	.....	N/A
"	.....	FU-E	.....	(2)	169	.....	N/A
"	.....	IG-E	.....	(2)	233	.....	N/A
"	.....	IG-TU	.....	N/A	.....	(2)	55
"	.....	TU-E	.....	N/A	.....	(2)	125
"	.....	IG-E	.....	N/A	.....	(2)	70

(1) - For models without tachometer.  
(2) - For tachometer equipped models.

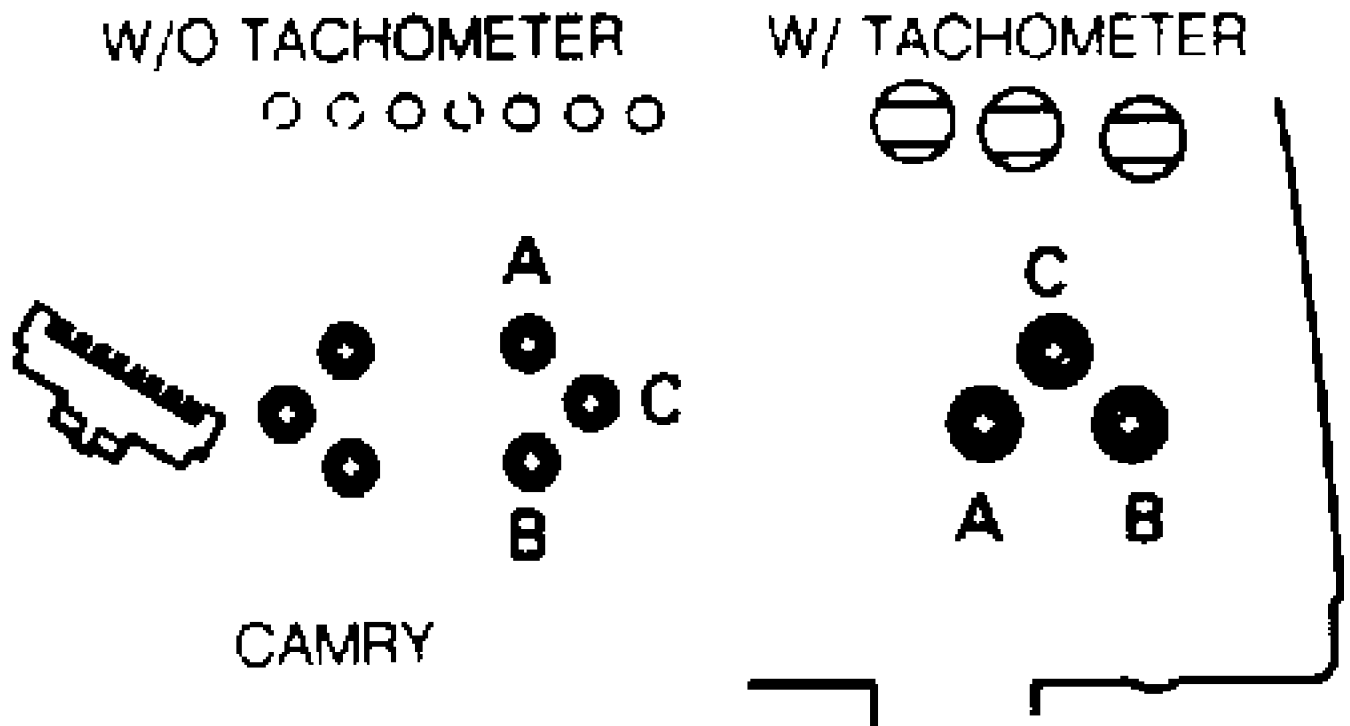


Fig. 1: Coolant Temperature Gauge Terminal Identification (CAMRY)  
Courtesy of Toyota Motor Sales, U.S.A., Inc.

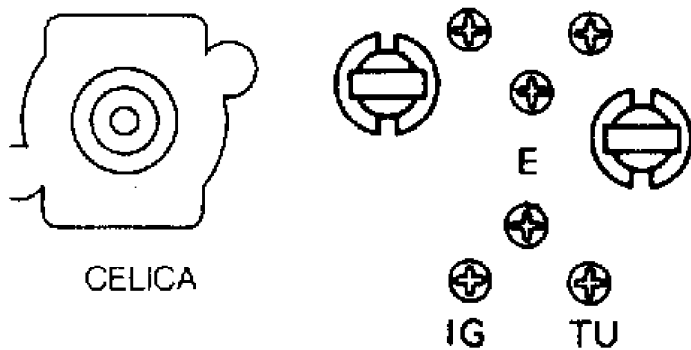
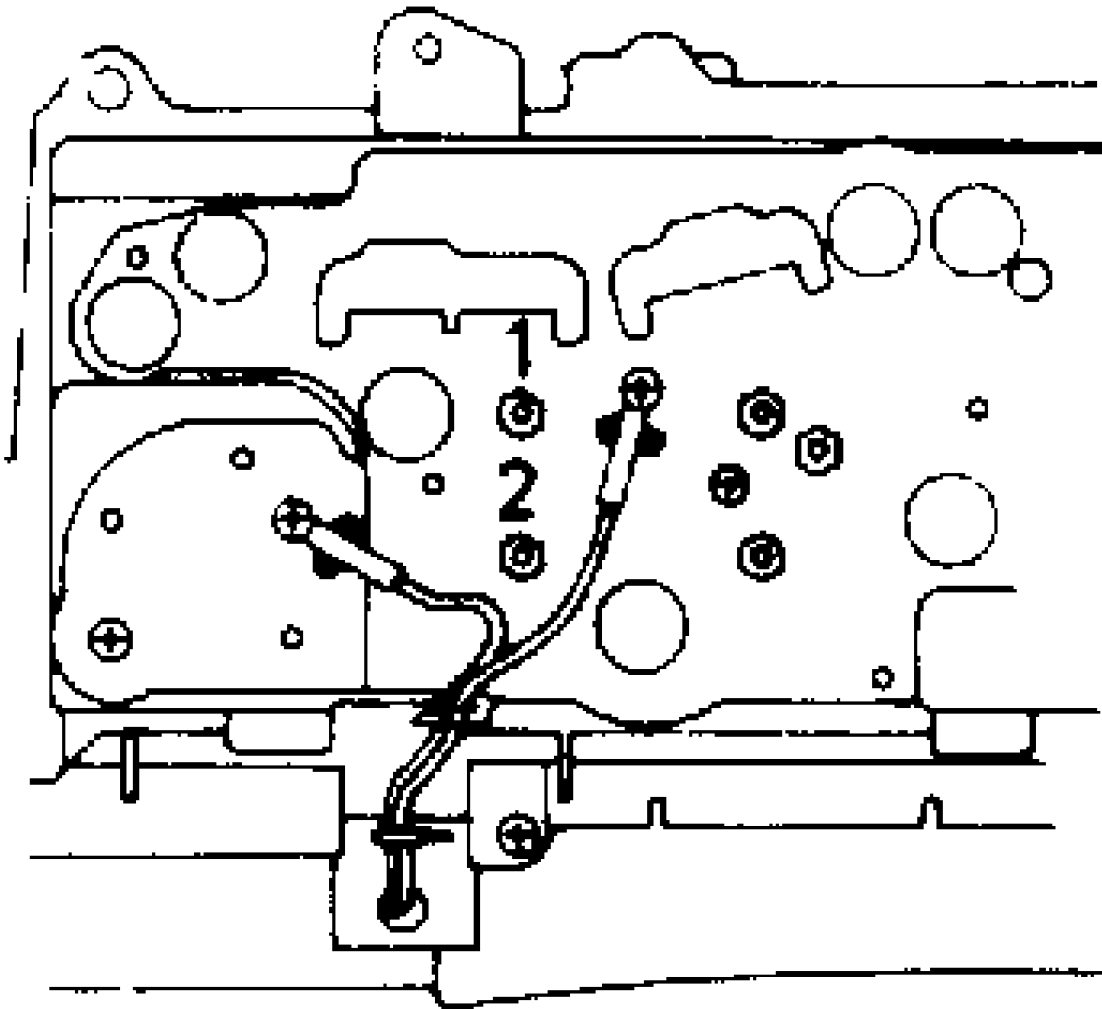
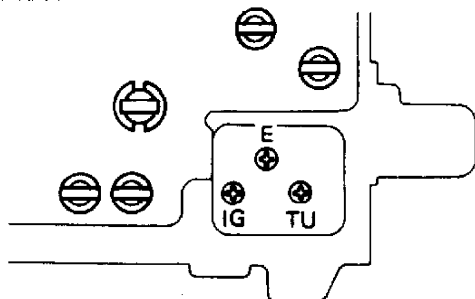


Fig. 2: Coolant Temperature Gauge Terminal Identification (CELICA)  
Courtesy of Toyota Motor Sales, U.S.A., Inc.



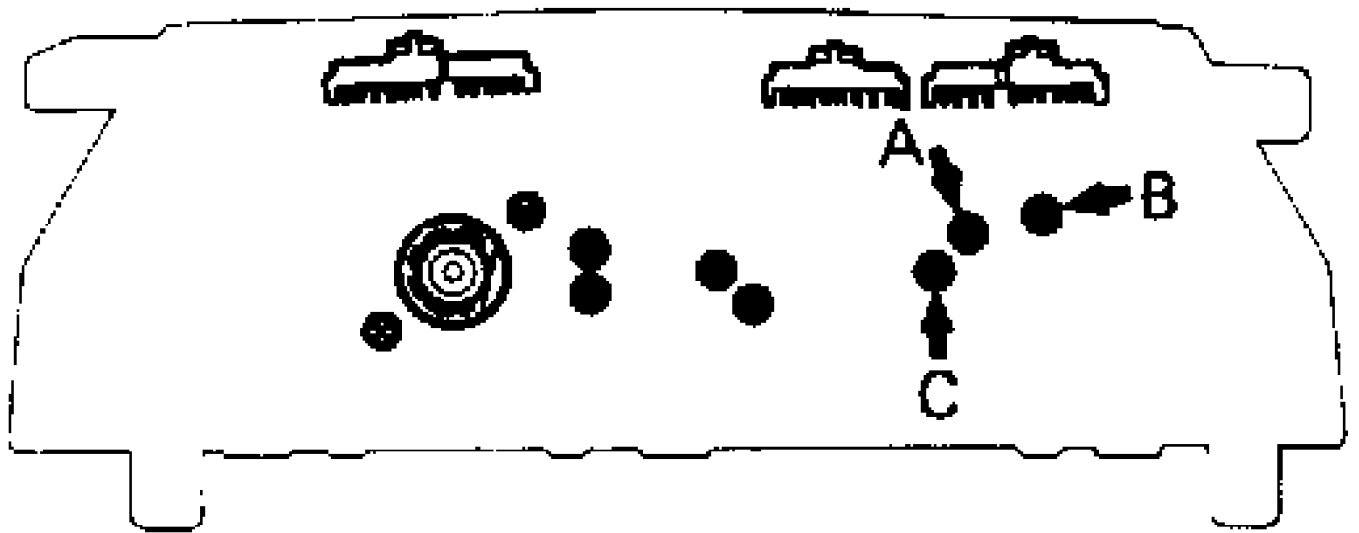
## COROLLA FX, FX-16 W/O TACHOMETER

Fig. 3: Coolant Temp Gauge Term ID (COROLLA FX, FX 16 W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



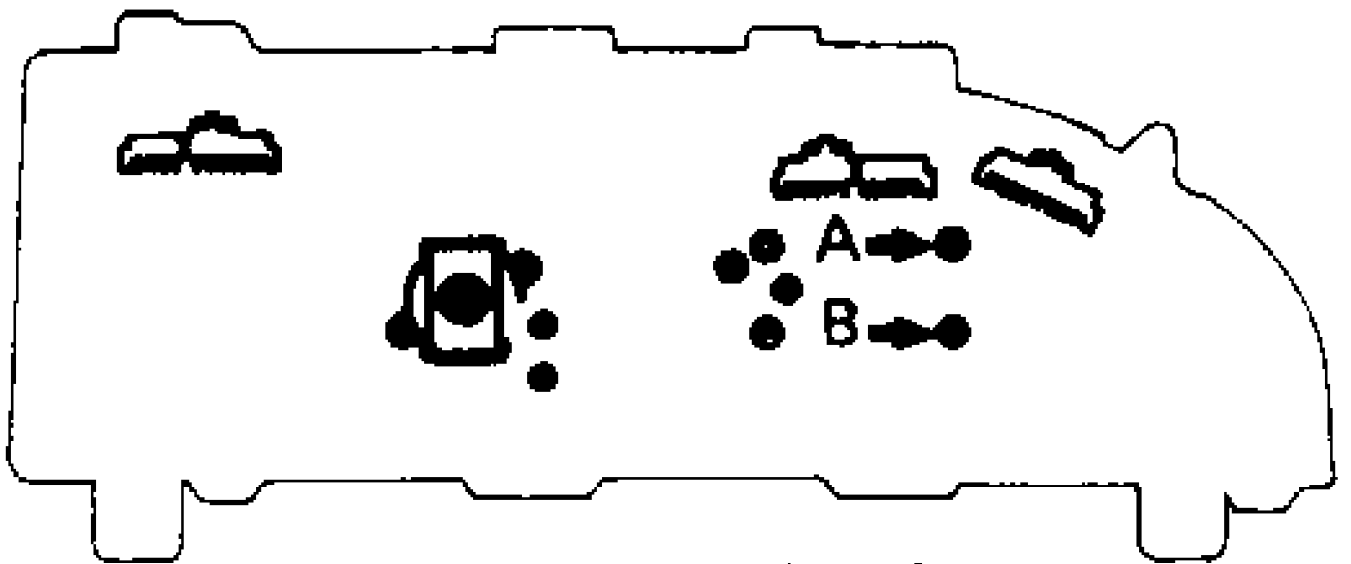
### COROLLA FX, FX-16 W/ TACHOMETER

Fig. 4: Coolant Temp Gauge Term ID (COROLLA FX & FX 16 W/ TACH)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



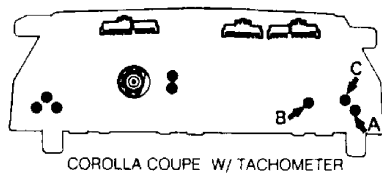
**COROLLA COUPE W/O TACHOMETER**

Fig. 5: Coolant Temp Gauge Term ID (COROLLA COUPE W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



**COROLLA SEDAN W/O TACHOMETER**

Fig. 6: Coolant Temp Gauge Term ID (COROLLA SEDAN W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



**COROLLA COUPE W/ TACHOMETER**

Fig. 7: Coolant Temp Gauge Term ID (COROLLA COUPE W/ TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

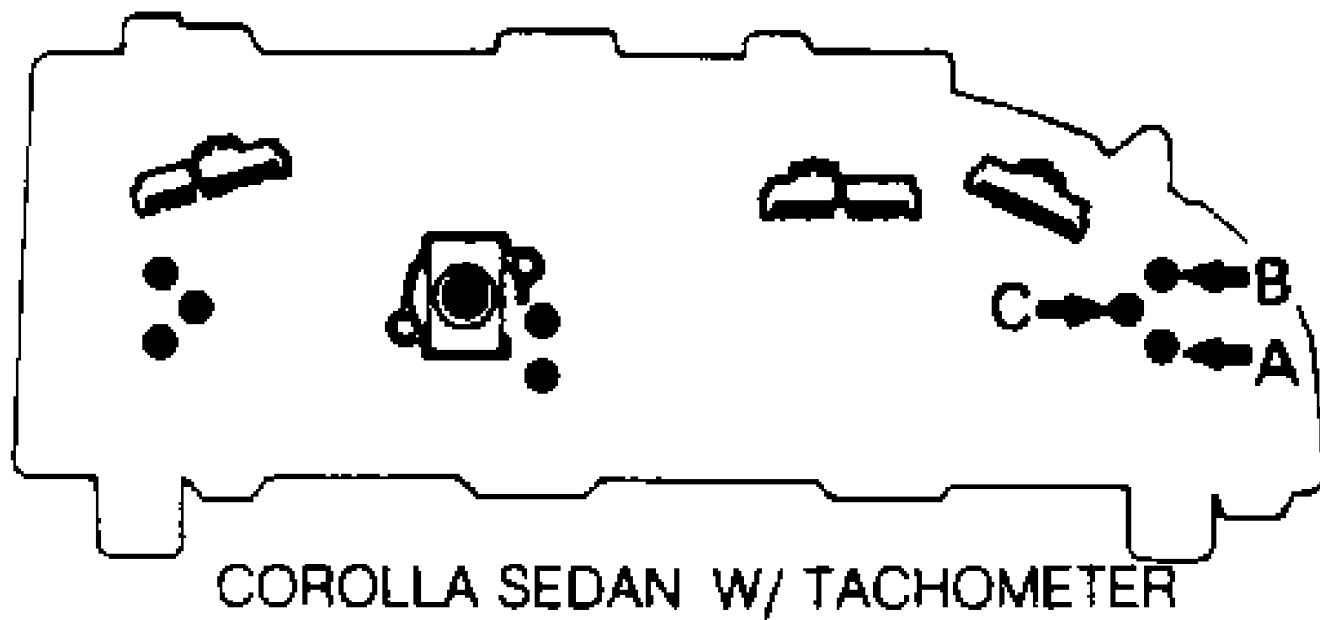


Fig. 8: Coolant Temp Gauge Term ID (COROLLA SEDAN W/ TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

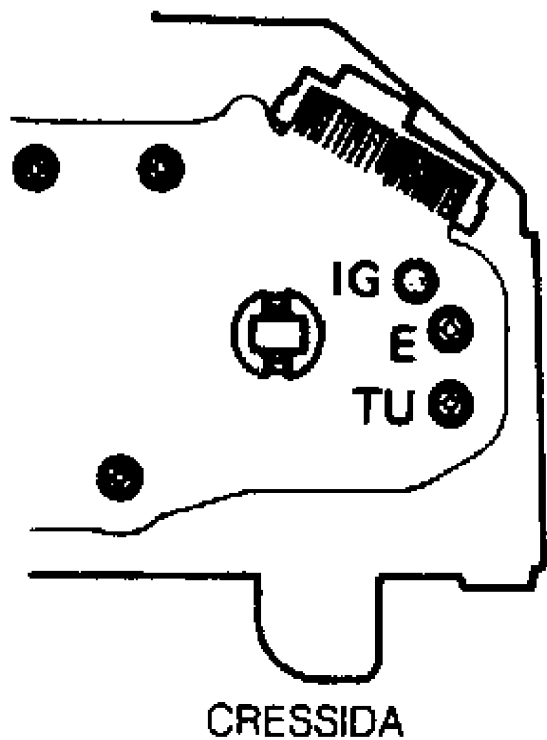


Fig. 9: Coolant Temperature Gauge Terminal Identification (CRESSIDA)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

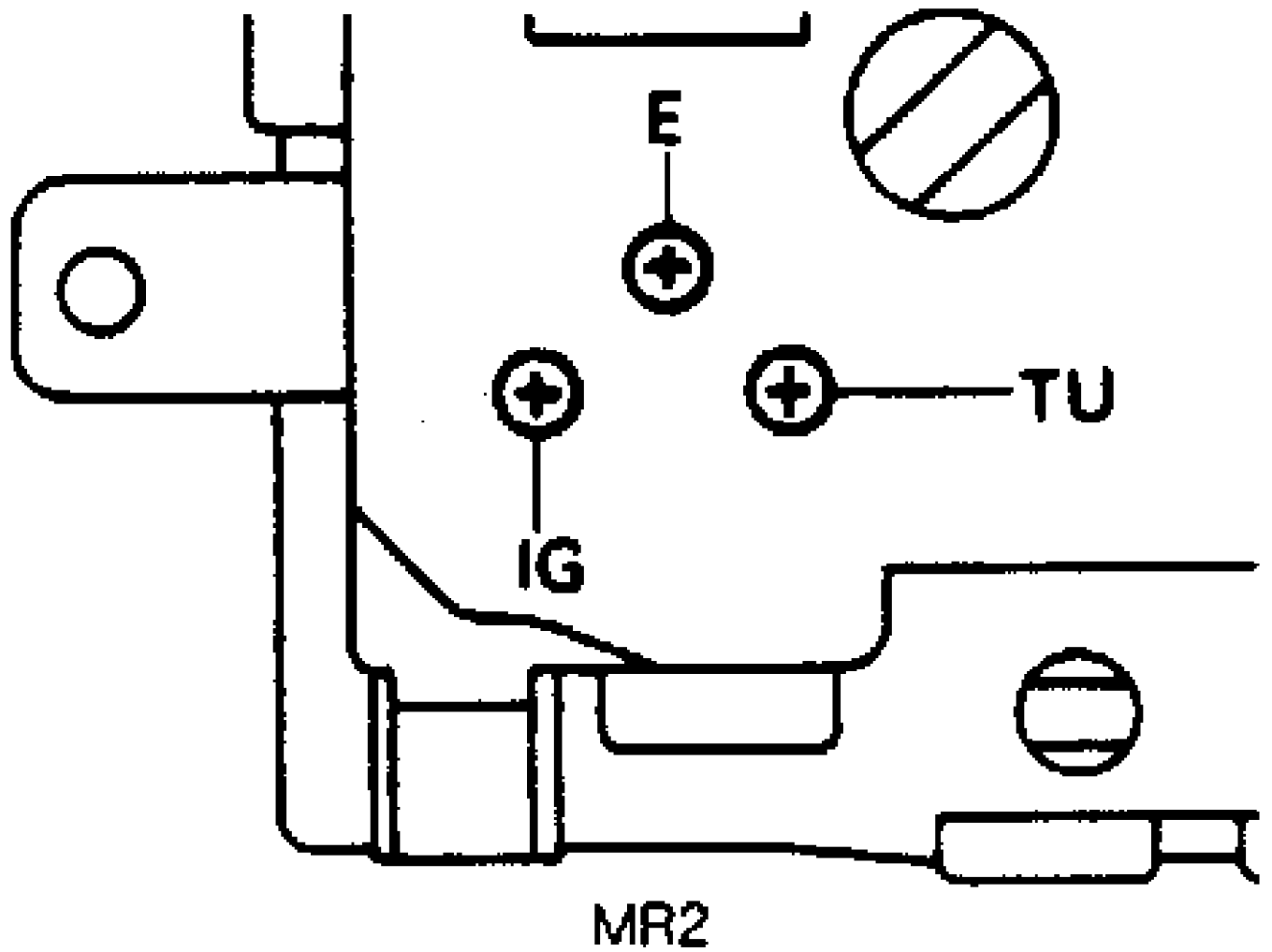
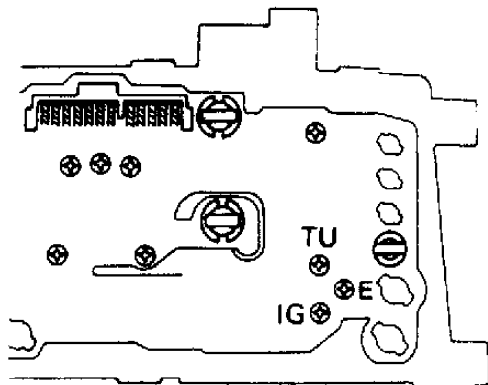
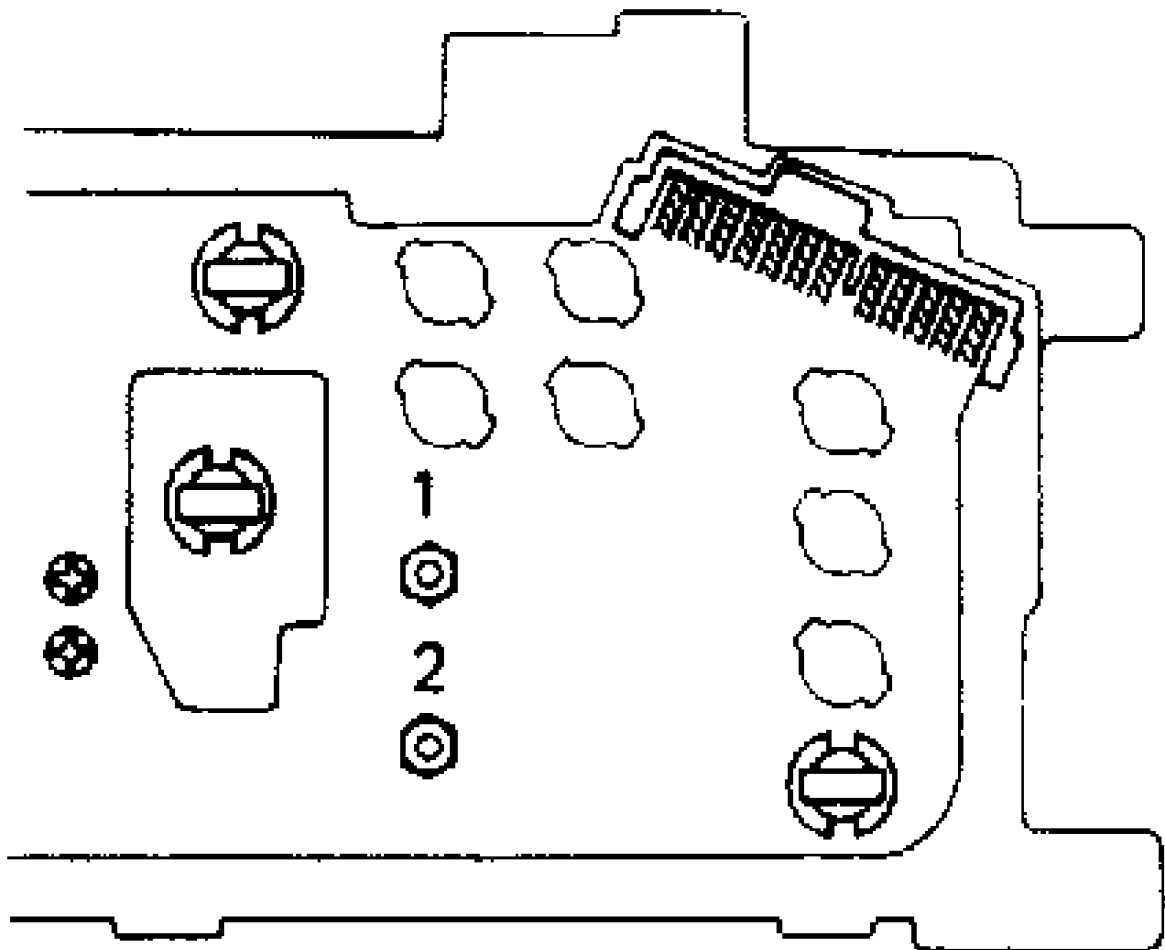


Fig. 10: Coolant Temperature Gauge Terminal Identification (MR2)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



PICKUP & 4RUNNER W/ TACHOMETER

Fig. 11: Coolant Temp Gauge Term ID (PICKUP & 4RUNNER W/ TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



## PICKUP & 4RUNNER W/O TACHOMETER

Fig. 12: Coolant Temp Gauge Term ID (PICKUP & 4RUNNER W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

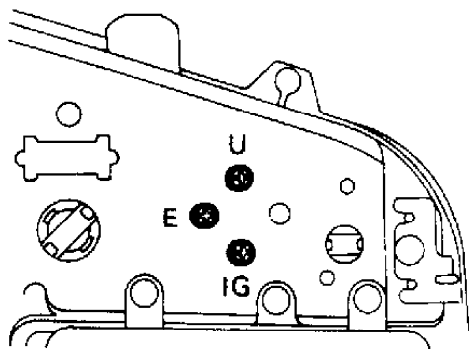
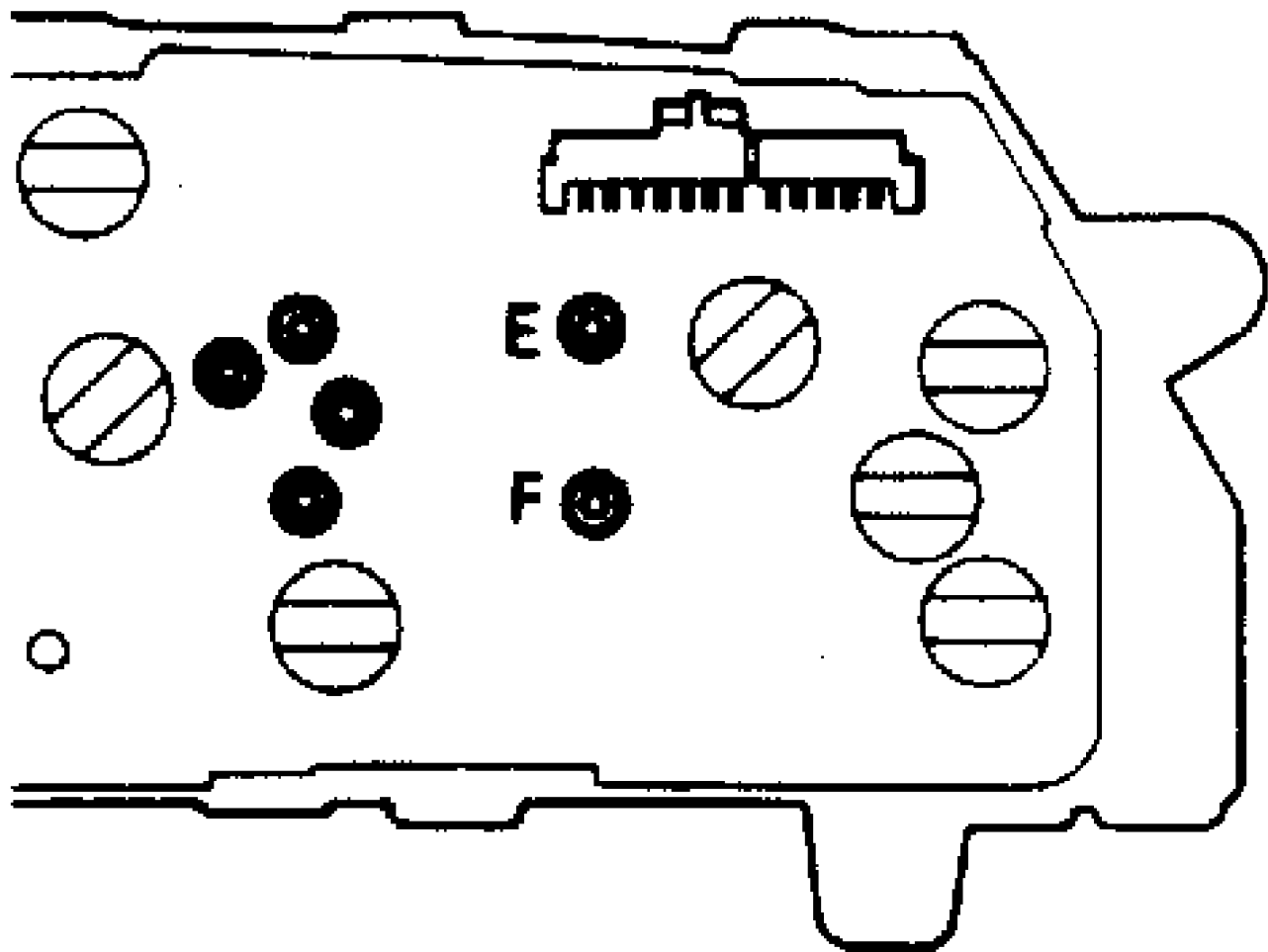


Fig. 13: Coolant Temp Gauge Term ID (SUPRA)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.





## TERCEL SEDAN

Fig. 14: Coolant Temperature Gauge Terminal ID (Tercel SEDAN)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

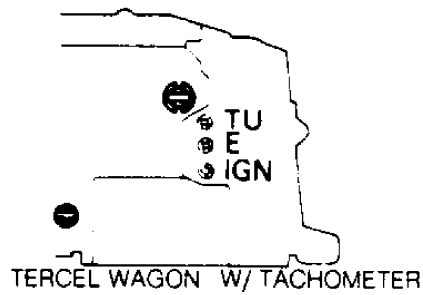
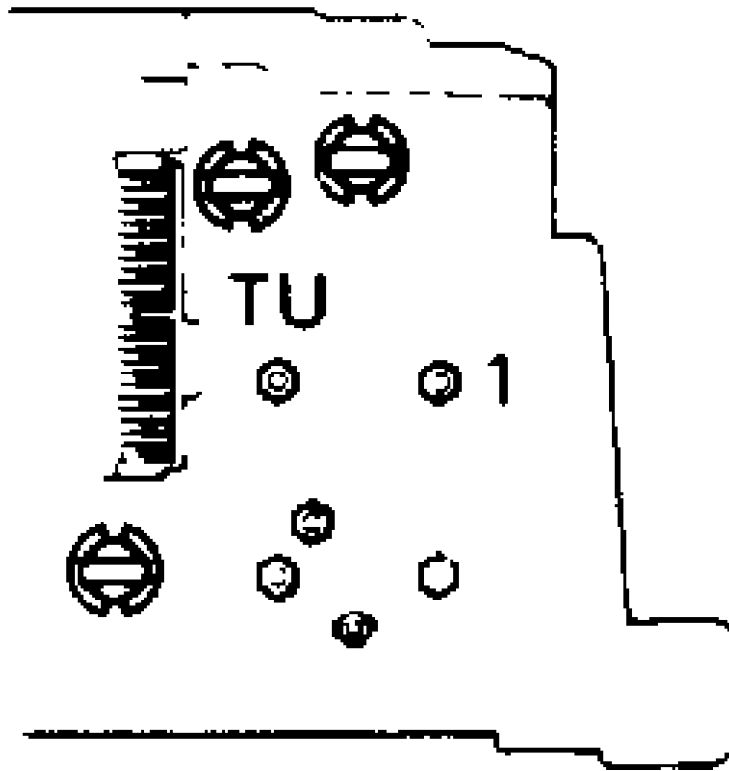
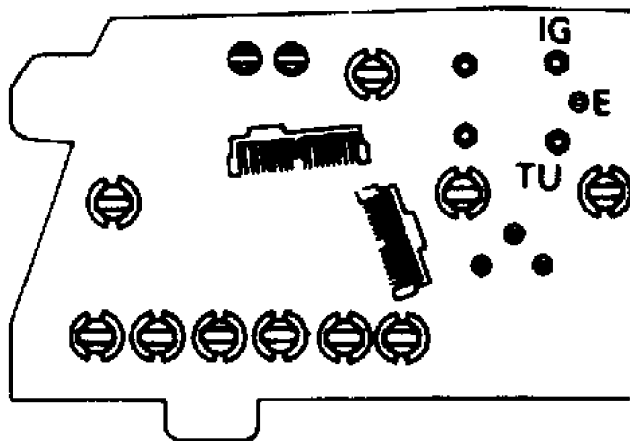


Fig. 15: Coolant Temp Gauge Term ID (TERCEL WAGON W/ TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



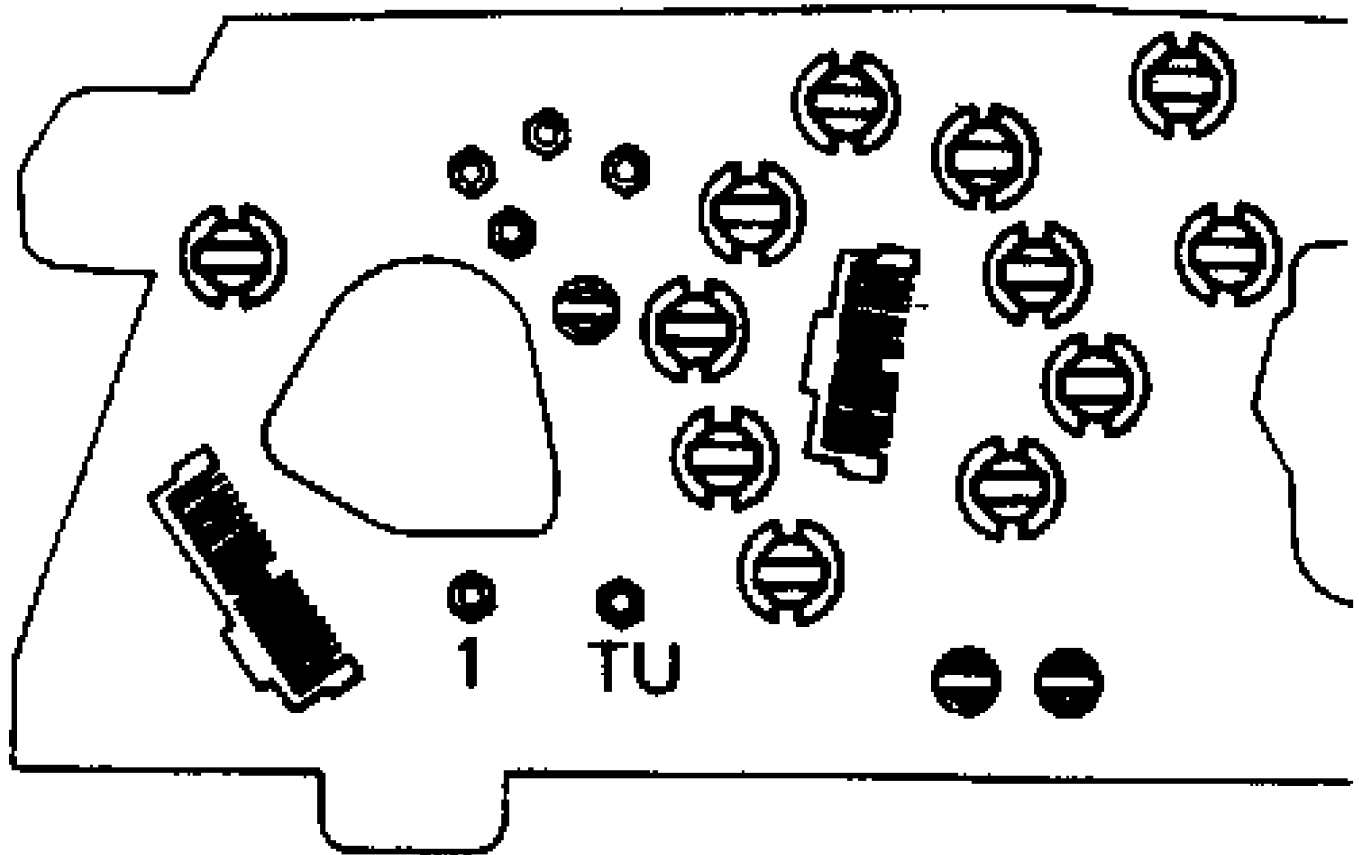
## TERCEL WAGON W/OUT TACHOMETER

Fig. 16: Coolant Temp Gauge Term ID (TERCEL WAGON W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



## VAN W/ TACHOMETER

Fig. 17: Coolant Temp Gauge Term Identification (VAN W/ TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



## VAN W/O TACHOMETER

Fig. 18: Coolant Temperature Gauge Terminal ID (VAN W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

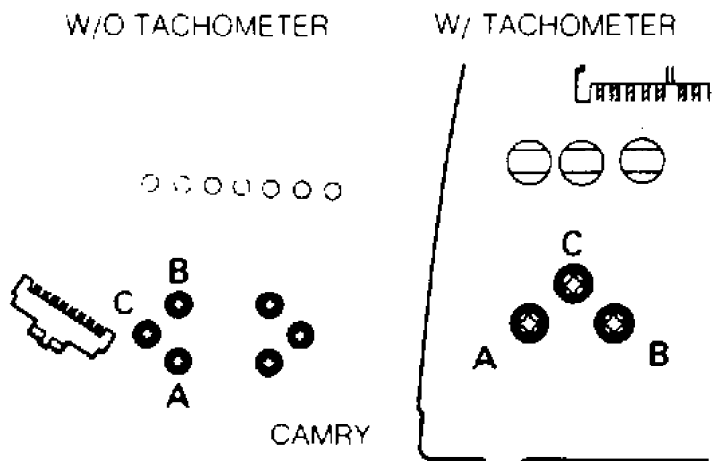


Fig. 19: Fuel Gauge Terminal Identification (CAMRY)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

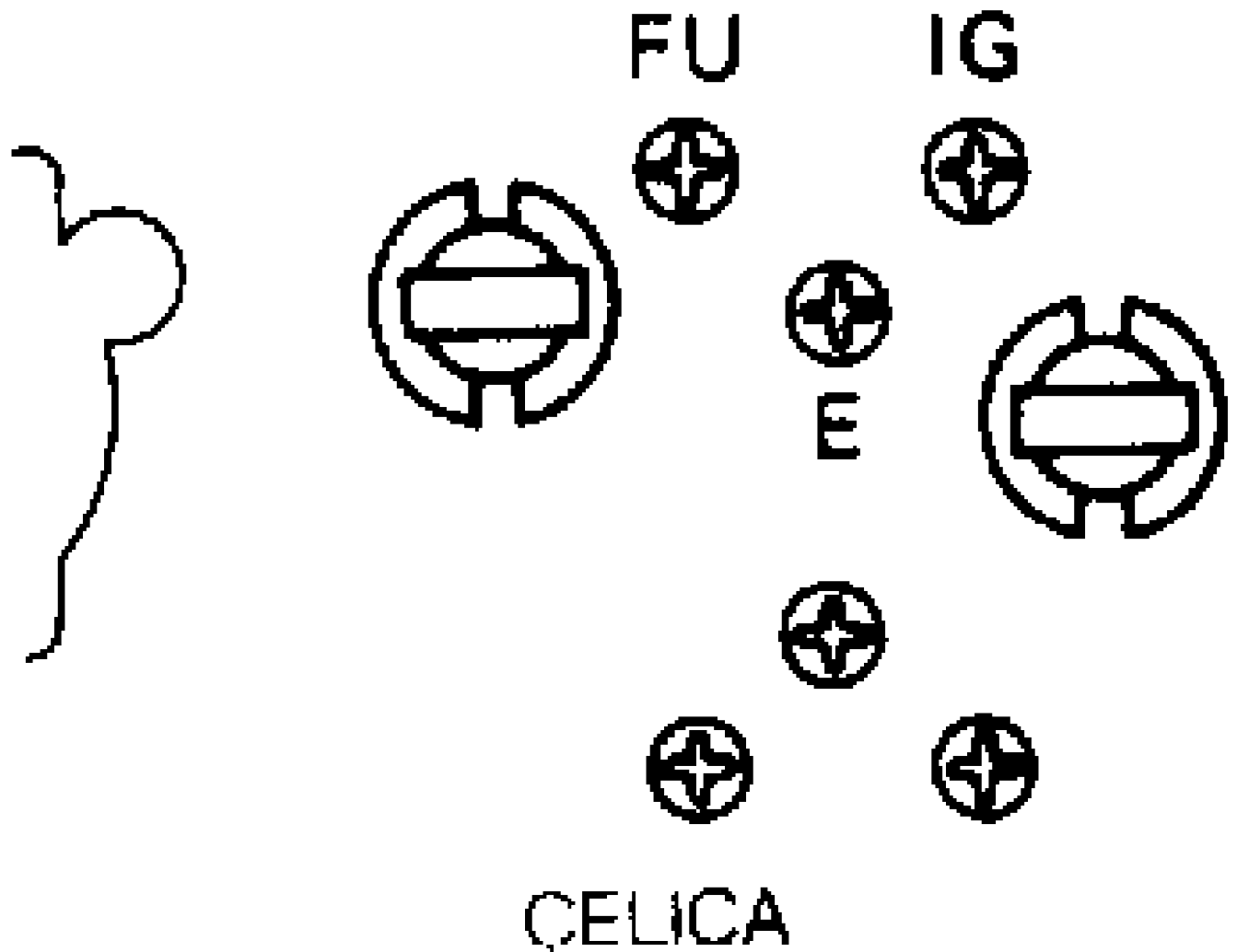


Fig. 20: Fuel Gauge Terminal Identification (CELICA)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

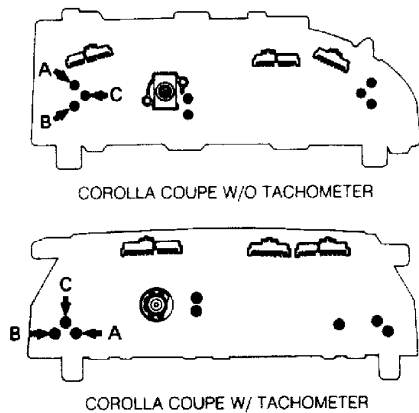
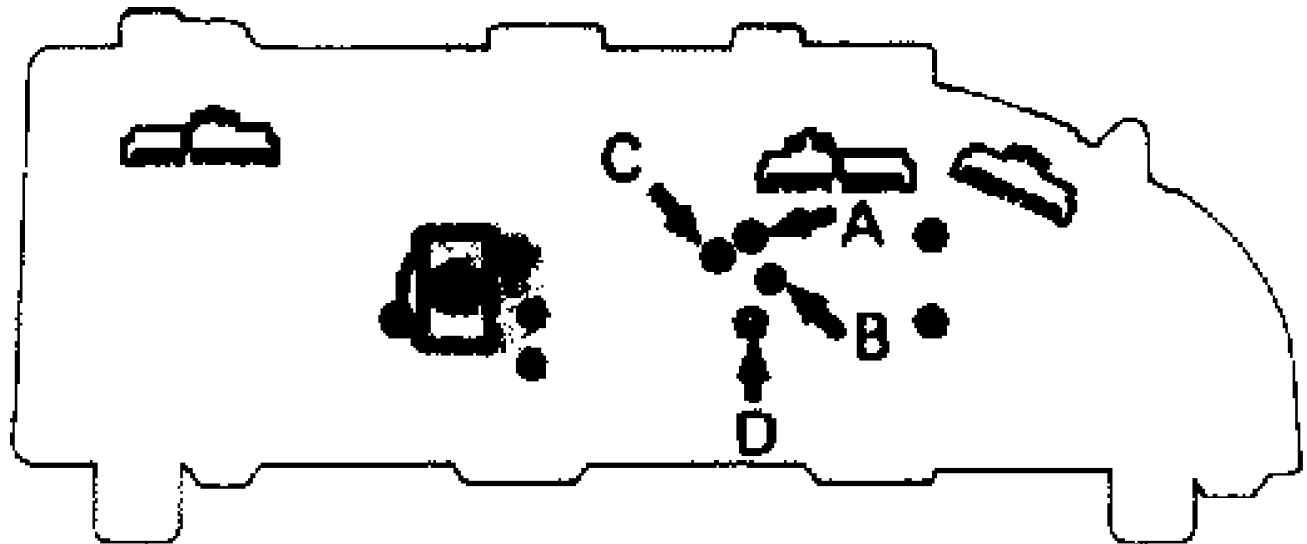
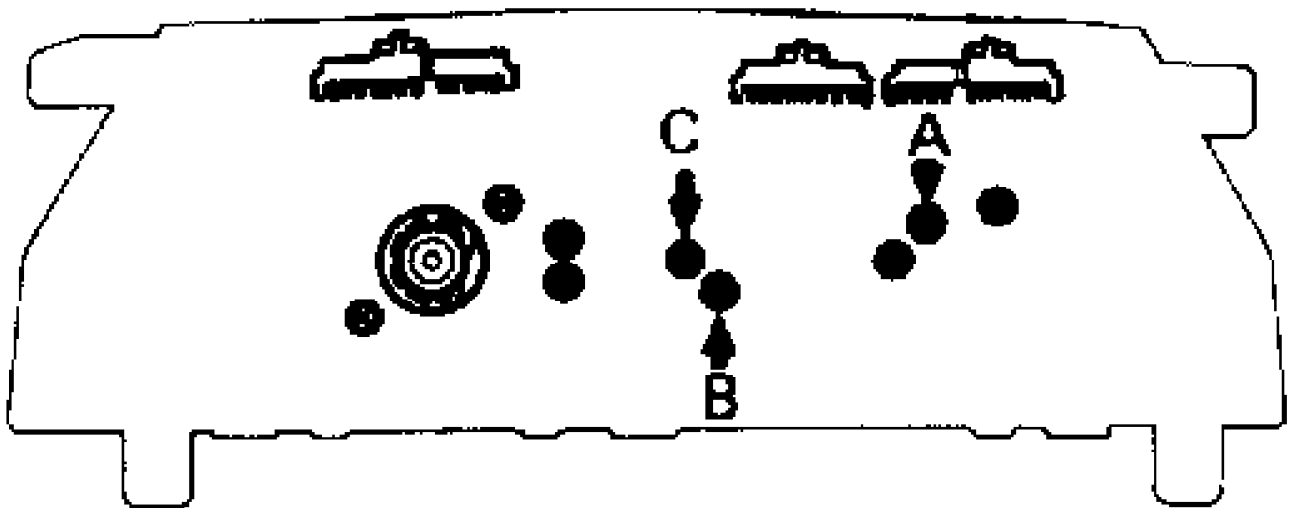


Fig. 21: Fuel Gauge Terminal ID (COROLLA COUPE W/ AND W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

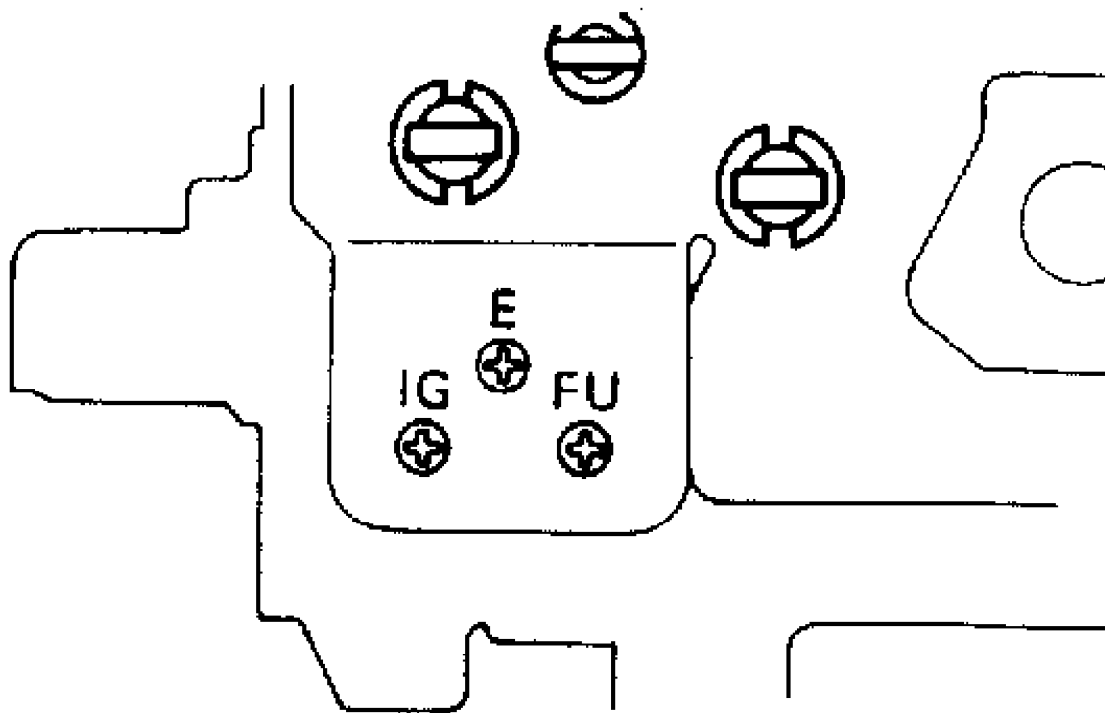


COROLLA SEDAN W/O TACHOMETER

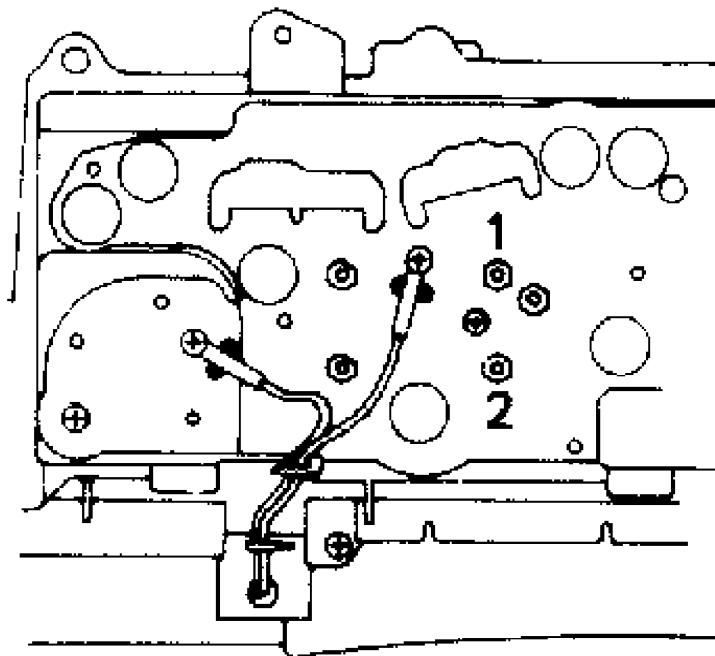


COROLLA SEDAN W/ TACHOMETER

Fig. 22: Fuel Gauge Terminal ID (COROLLA SEDAN W/ AND W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

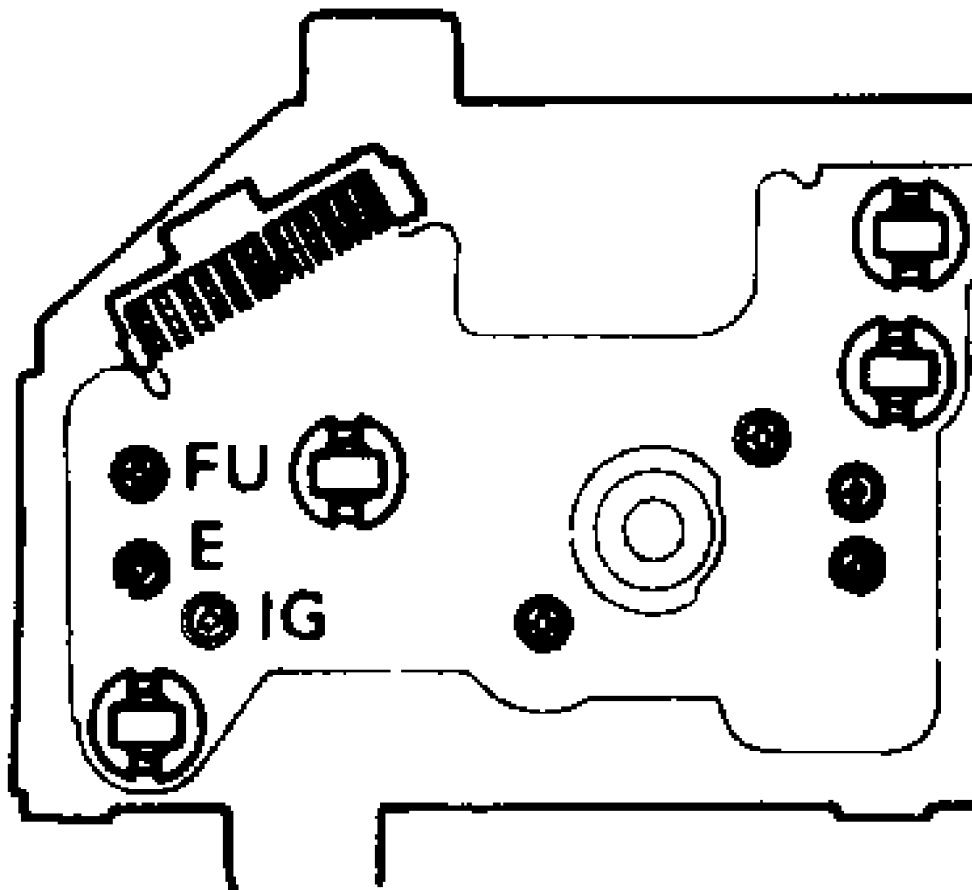


COROLLA FX, FX-16 W/ TACHOMETER



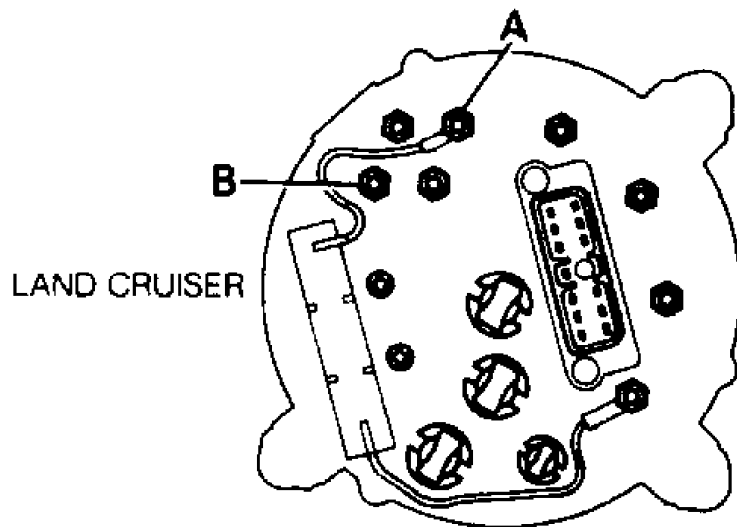
COROLLA FX, FX-16 W/O TACHOMETER

Fig. 23: Fuel Gauge Term ID (COROLLA FX & FX 16 W/ AND W/O TACH)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



CRESSIDA

Fig. 24: Fuel Gauge Terminal Identification (CRESSIDA)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



LAND CRUISER

Fig. 25: Fuel Gauge Terminal Identification (LAND CRUISER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

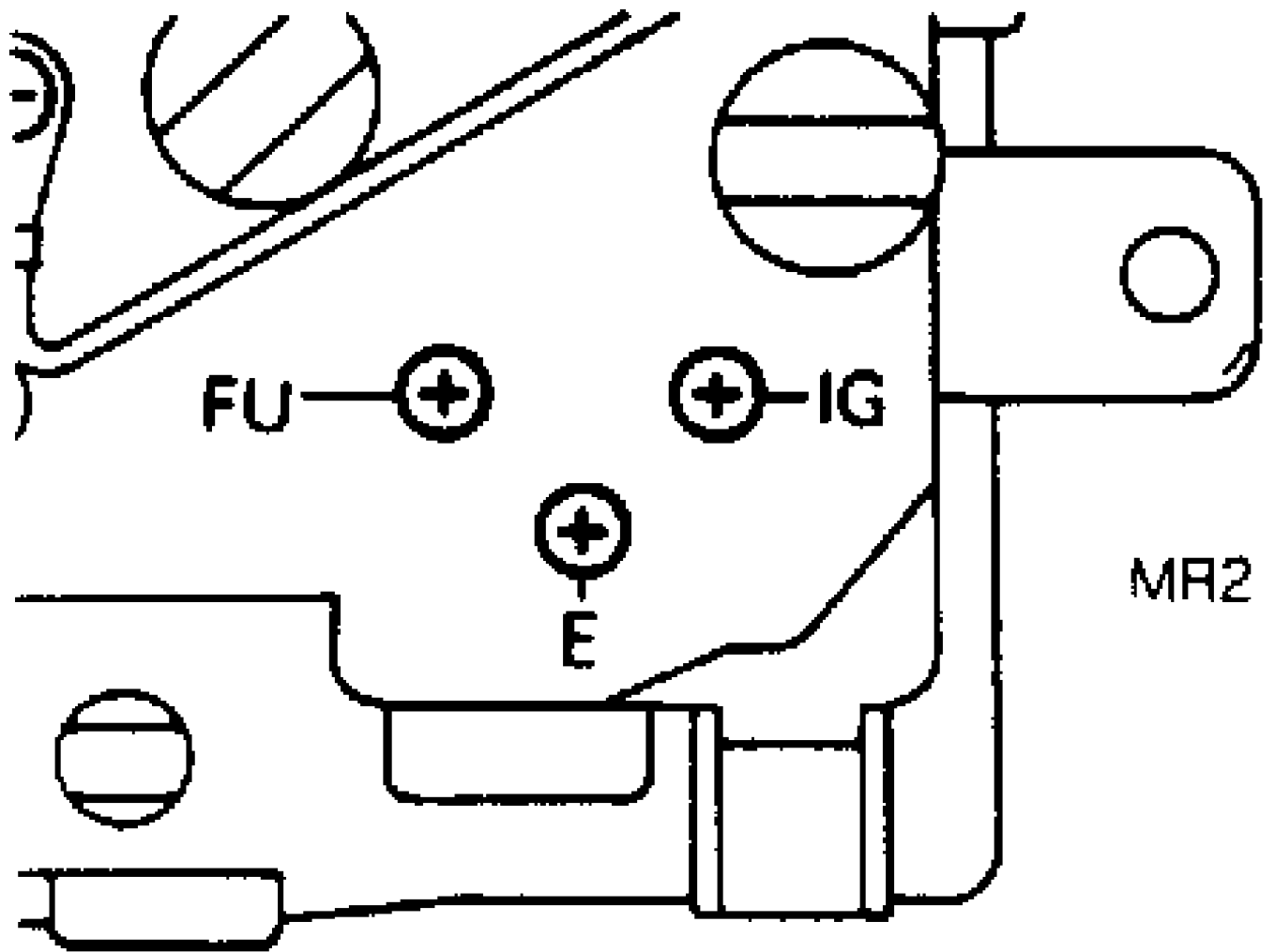
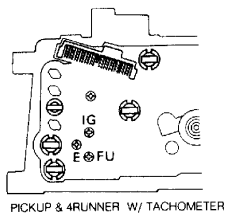
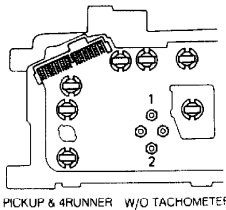


Fig. 26: Fuel Gauge Terminal Identification (MR2)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



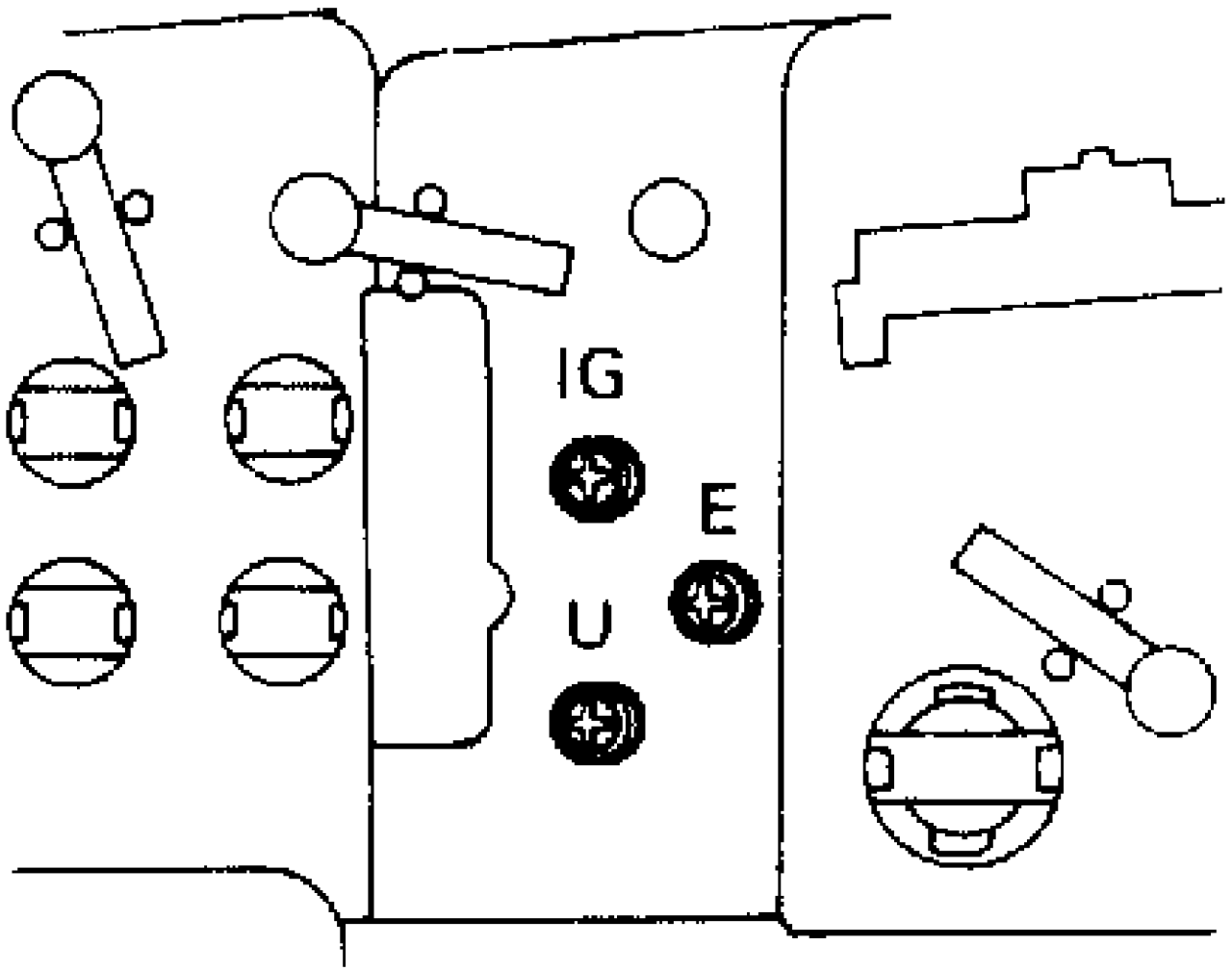
PICKUP & 4RUNNER W/ TACHOMETER



PICKUP & 4RUNNER W/O TACHOMETER

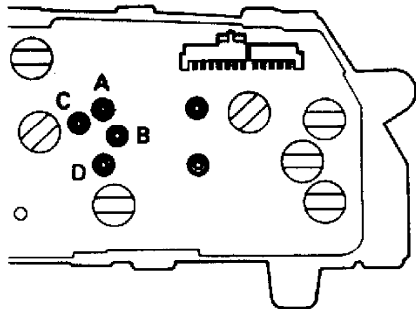
Fig. 27: Fuel Gauge Term ID (PICKUP & 4RUNNER W/ AND W/P TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.





## SUPRA

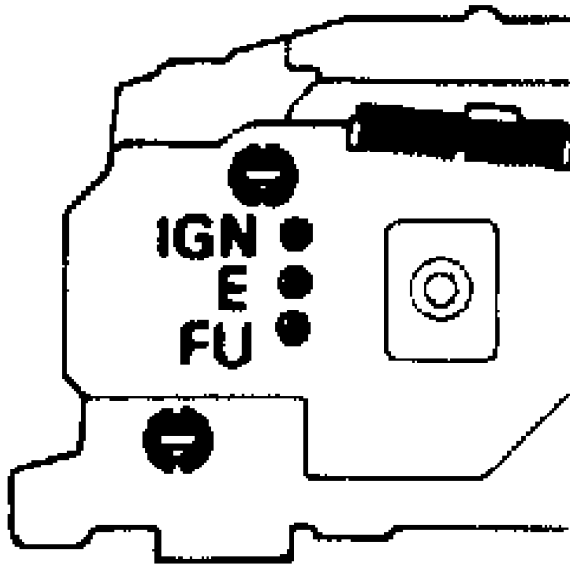
Fig. 28: Fuel Gauge Terminal Identification (SUPRA)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



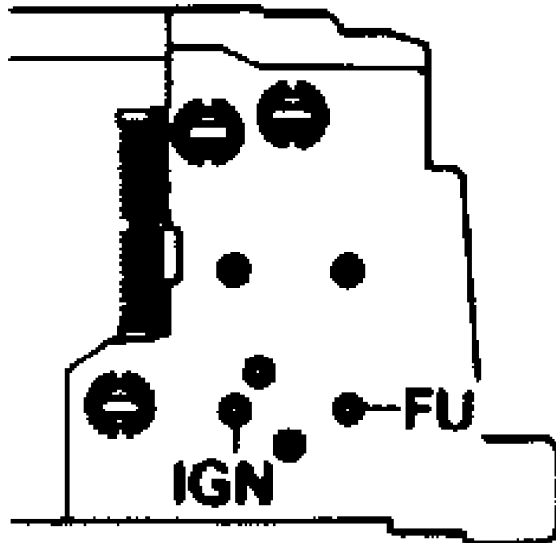
## TERCEL SEDAN

Fig. 29: Fuel Gauge Terminal Identification (TERCEL SEDAN)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

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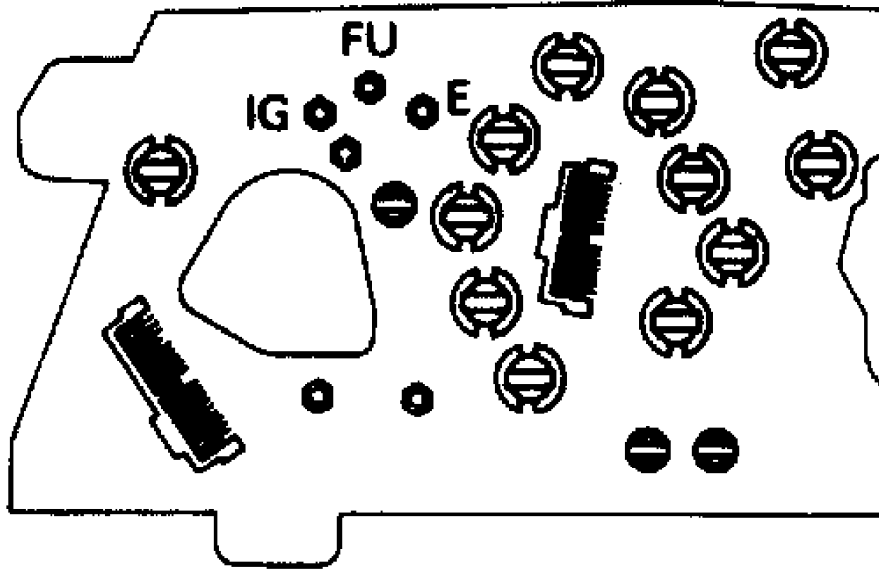


TERCEL WAGON W/ TACHOMETER

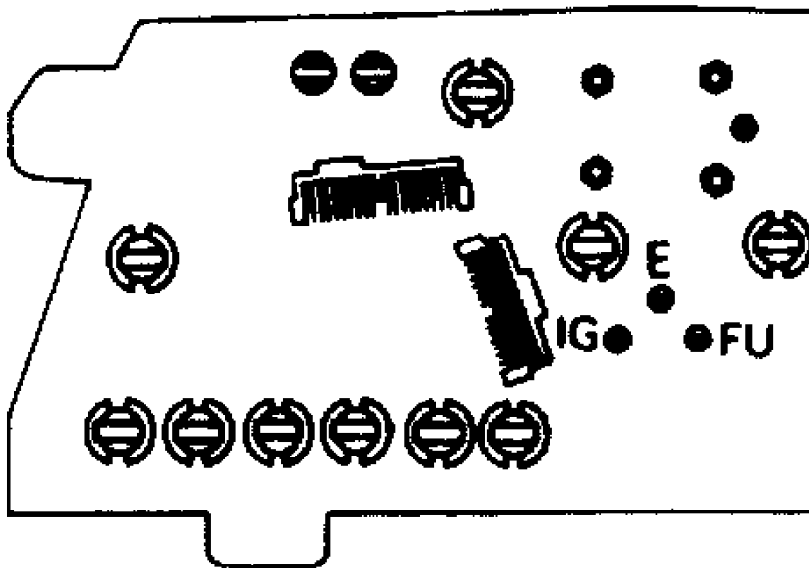


TERCEL WAGON W/O TACHOMETER

Fig. 30: Fuel Gauge Terminal ID (TERCEL WAGON W/ AND W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



VAN W/O TACHOMETER



VAN W/ TACHOMETER

Fig. 31: Fuel Gauge Terminal ID VAN W/ AND W/O TACHOMETER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

TEMPERATURE GAUGE & SENDER

1) Unplug connector at coolant temperature sender. Connect a 12-volt, 3.4-watt test light between wire and ground. Turn ignition on. Bulb should flash and gauge needle should vibrate.

2) Connect ohmmeter between sender terminal and body of sender. Check resistance while heating sender in water. See COOLANT TEMPERATURE SENDER RESISTANCE table. Replace sender if inaccurate.

COOLANT TEMPERATURE SENDER RESISTANCE TABLE

Model Type	Temperature °F (°C)	Resistance (Ohms)
Camry, Celica Corolla (Exc. FX) & Supra	122 (50)	190-260
" (1) 190-260		
"	140 (60)	(2) 152-154
"	239 (115)	(1) 24-28
"	239 (115)	(2) 23-28
Pickup & 4Runner	140 (60)	143-174
"	239 (115)	22-26
All Others	122 (50)	190-260
"	239 (115)	24-29

(1) - For Nippondenso gauge.  
 (2) - For Yazaki gauge.

3) Check gauge resistance by measuring across terminals with ohmmeter. Ignition must be off and connector unplugged. See Figs. 1 - 18. See FUEL & TEMPERATURE GAUGE RESISTANCE table.

4) Connect one end of test light to sender terminal and other end to battery voltage. With engine running, test light should flash. Test light should not light when engine is stopped.

NOTE: Bulb may come on briefly when engine is stopped, but bulb should not remain on.

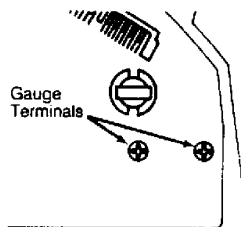
OIL PRESSURE GAUGE

Celica, Cressida, Land Cruiser, Supra, Tercel & Van

1) Unplug sending unit connector. Connect a 12-volt, 3.4-watt bulb in-line with sending unit lead and ground. Turn ignition switch on. Bulb should start flashing and gauge pointer should deflect.

2) Using an ohmmeter, check resistance between gauge terminals. See Figs. 32 - 37. On Land Cruiser, resistance should be about 55 ohms. On Celica, Supra and Van resistance should be about 42 ohms. Replace gauge if defective.

3) To check sending unit, unplug connector from sending unit. Connect 12-volt source to sending unit in series with a 3.4-watt bulb. Bulb should not light with engine stopped. With engine running, bulb should flash. Flashes will vary with engine speed.



CELICA

Fig. 32: Oil Pressure Gauge Terminal Identification (CELICA)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

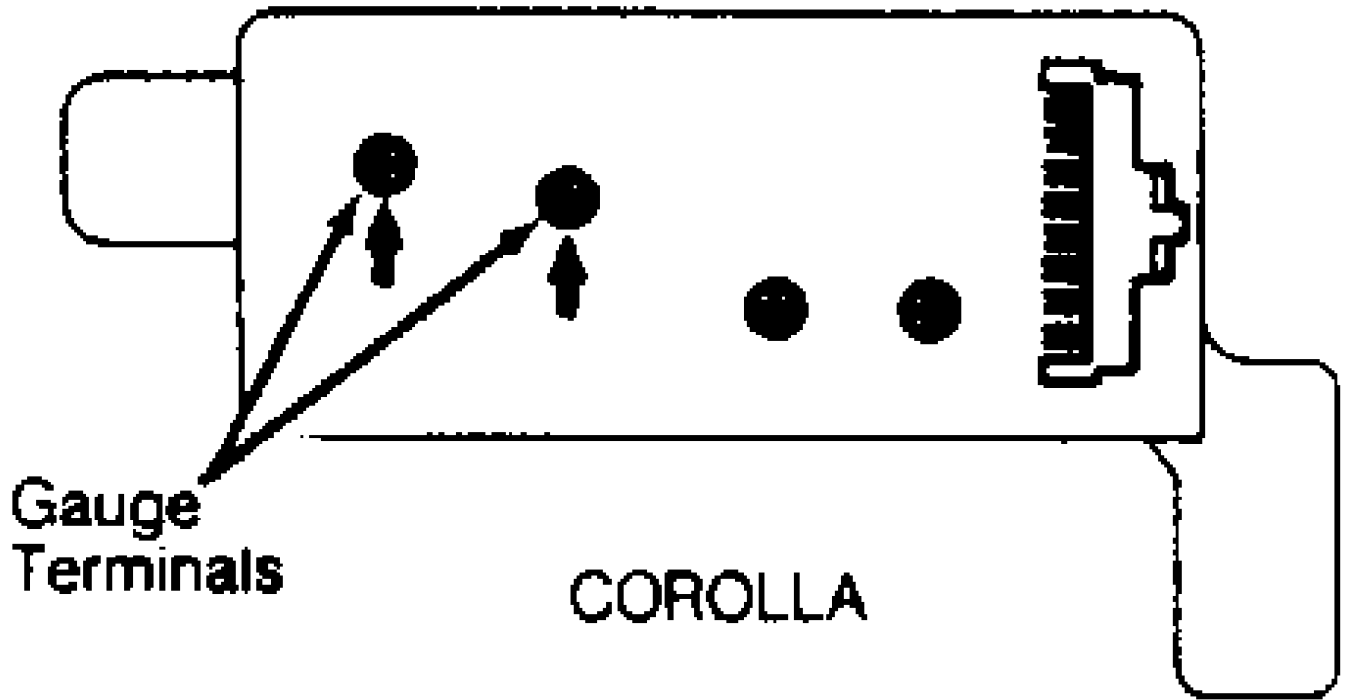


Fig. 33: Oil Pressure Gauge Terminal Identification (COROLLA)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

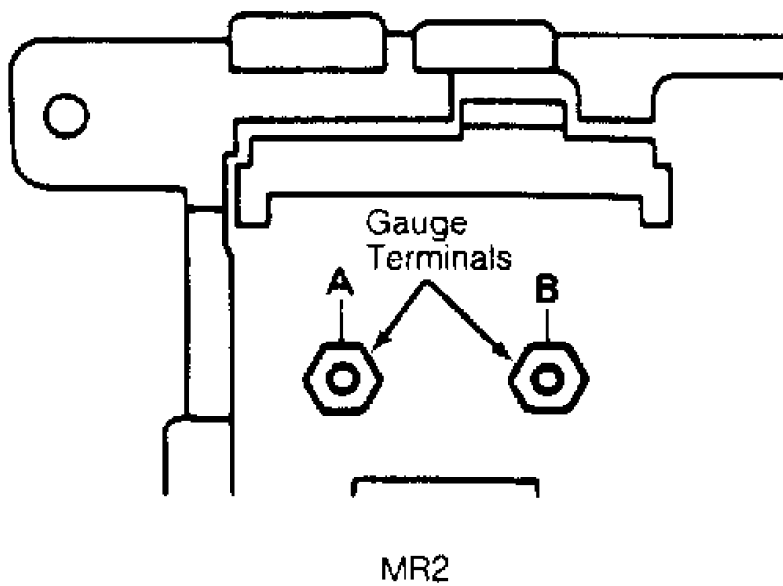


Fig. 34: Oil Pressure Gauge Terminal Identification (MR2)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

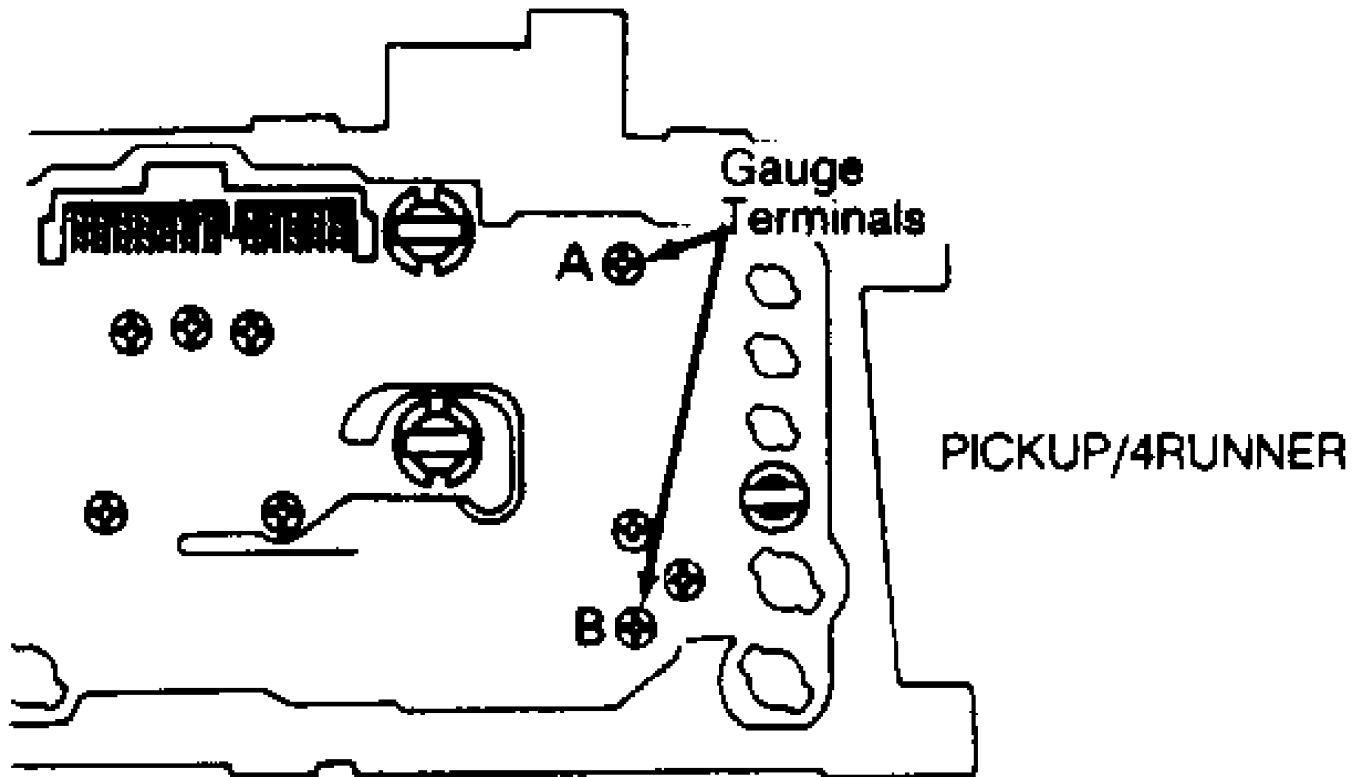


Fig. 35: Oil Pressure Gauge Terminal Identification (P/U & 4RUNNER)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

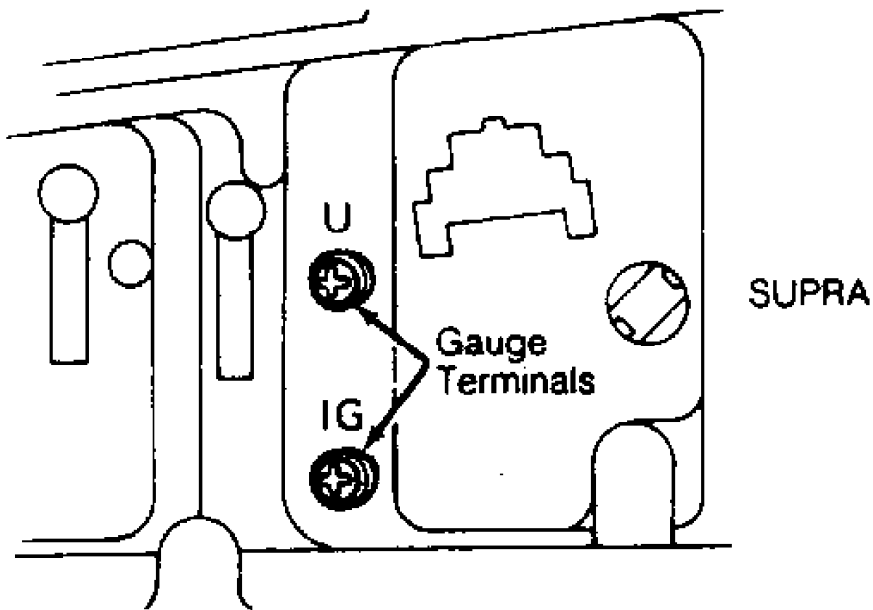


Fig. 36: Oil Pressure Gauge Terminal Identification (SUPRA)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

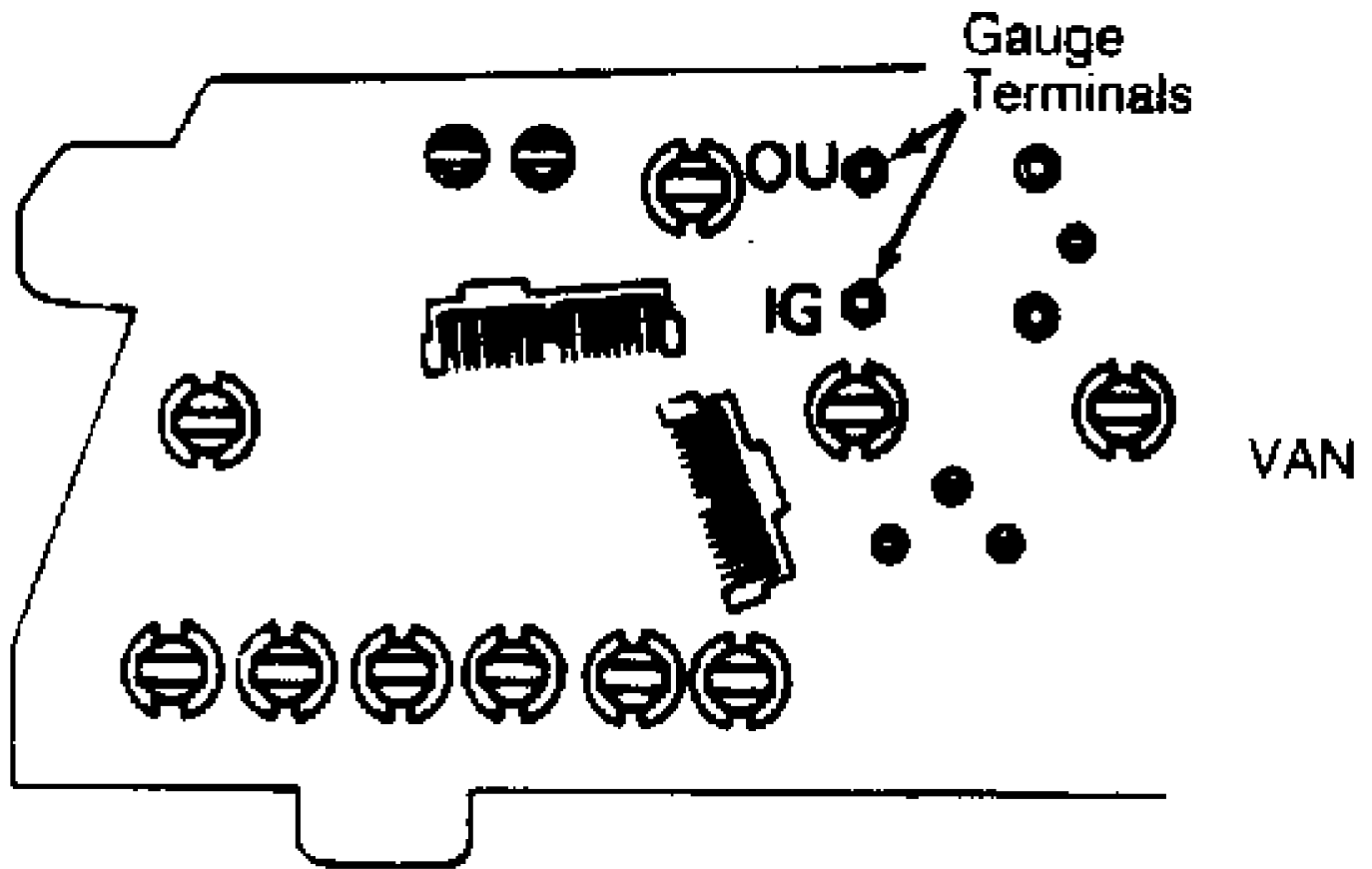


Fig. 37: Oil Pressure Gauge Terminal Identification (VAN)  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

Corolla RWD, MR2, Pickup & 4Runner

1) Unplug connector from sending unit. Connect positive lead from a voltmeter to terminal and negative lead to ground. Turn ignition on. Meter should vibrate near 4.5 volt position.

2) If reading is incorrect, test gauge resistance. See Figs. 32 - 37. Resistance between oil pressure gauge terminals should be about 42-44 ohms. If not, replace oil pressure gauge.

3) To test sending unit, unplug connector from sending unit. Connect 12-volt source to sending unit in series with a 3.4-watt bulb. Bulb should not light with engine stopped. With engine running, bulb should flash. Flashes will vary with engine speed.

## TROUBLE SHOOTING

### TRIP COMPUTER

Supra

Check connector between computer and wire harness, computer and display, and between display and key board. If connections and wiring are okay, disconnect computer and inspect connector on wire harness side. See Fig. 38.

Check Item	Check for	Tester Connection	Condition	Specified Value
CIG Fuse	Voltage	4 - Ground	Turn ignition switch ACC or ON	Battery voltage
			Turn ignition switch OFF	No voltage
IGN Fuse	Voltage	5 - Ground	Turn ignition switch ON	Battery voltage
			Turn ignition switch OFF	No voltage
RADIO No. 1 Fuse	Voltage	7 - Ground	Always	Battery voltage
EFI ECU	Voltage	13 - Ground	Turn ignition switch ON	Battery voltage
			Turn ignition switch OFF	No voltage
Speed Sensor	Continuity	14 - Ground	Vehicle moving slowly	1 pulse each 40 cm (15.75 in.)
Body Ground	Continuity	15 - Ground	Always	Continuity
Engine Ground	Continuity	17 - Ground	Always	Continuity
TAIL Fuse	Voltage	18 - Ground	Turn light control switch to TAIL	Battery voltage
			Turn light control switch OFF	No voltage
GAUGE Fuse	Voltage	20 - Ground	Turn ignition switch ON	Battery voltage
			Turn ignition switch OFF	No voltage

## Trip Computer Connector

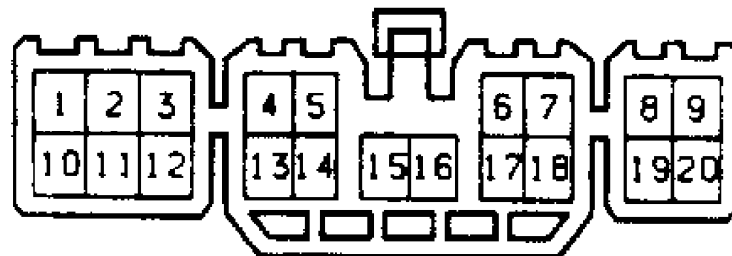


Fig. 38: Supra Trip Computer Trouble Shooting Chart  
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

### REMOVAL & INSTALLATION

#### INSTRUMENT CLUSTER



#### Camry

1) Disconnect negative battery cable. Remove 5 finish panel retaining screws and remove instrument cluster finish panel. Disconnect connectors.

2) Remove 4 instrument cluster retaining screws and pull instrument cluster out. Disconnect connectors and speedometer cable. Remove instrument cluster. To install, reverse removal procedure.

#### Celica

1) Disconnect negative battery cable. Using a screwdriver, pry off defogger and hazard switches. Disconnect connectors and remove switches. Remove 4 retaining screws. Remove trim panel over instrument cluster.

2) Remove instrument cluster cover panel. Disconnect speedometer cable. Remove 4 instrument cluster retaining screws and pull instrument cluster out. Disconnect wiring and remove instrument cluster. To install, reverse removal procedure.

#### Corolla

1) Disconnect negative battery cable. On sedan and station wagon models, remove instrument cluster trim panel. Remove instrument cluster retaining screws. Disconnect speedometer cable and electrical connectors. Remove instrument cluster. To install, reverse removal procedure.

2) On coupe and liftback models, remove light control rheostat knob. Remove instrument cluster trim panel. Remove instrument cluster retaining screws. Disconnect wiring connectors and speedometer cable. Remove instrument cluster.

#### Cressida

1) Disconnect negative battery cable. Remove trim panel under instrument cluster. Remove rear wiper switch, antenna switch and instrument light dimmer knob. To install, reverse removal procedure.

2) Remove instrument cluster cover panel. Disconnect speedometer cable. Remove cluster retaining screws and pull instrument cluster out. Disconnect wiring and remove instrument cluster. To install, reverse removal procedure.

#### Land Cruiser

Disconnect negative battery cable. Remove 5 finish panel/instrument cluster retaining screws. Remove speedometer cable and connectors. Remove finish panel/cluster as a unit. To install, reverse removal procedure.

#### MR2

Disconnect negative battery cable. Remove 11 screws and instrument cluster finish upper panel. Remove 2 finish panel retainer nuts. Remove retainer. Remove 4 instrument cluster retaining screws and pull instrument cluster out. Disconnect wiring and speedometer cable. Remove instrument cluster. To install, reverse removal procedure.

#### Pickup & 4Runner

Disconnect negative battery cable. Remove steering column covers. Remove 5 retaining screws and instrument cluster finish panel. Remove screws and pull instrument cluster out. Disconnect wiring and speedometer cable. Remove instrument cluster. To install, reverse removal procedure.

#### Supra

Disconnect negative battery cable. Remove 7 finish panel retaining screws and remove finish panel. Remove 4 retaining screws from instrument cluster. Disconnect wiring and remove instrument

cluster. To install, reverse removal procedure.

#### Tercel

Disconnect negative battery cable. Remove 4 finish panel retaining screws. Disconnect connectors and remove finish panel. Remove 4 instrument cluster retaining screws. Pull instrument cluster out. Disconnect speedometer and connectors. Remove instrument cluster. To install, reverse removal procedure.

#### Van

1) Disconnect negative battery cable. Remove 5 finish panel retaining screws and remove instrument cluster finish panel with 3 clips.

2) Remove 4 instrument cluster retaining screws and pull instrument cluster out. Disconnect connectors and speedometer cable. Remove instrument cluster. To install, reverse removal procedure.

## **WIRING DIAGRAMS**

NOTE: See appropriate chassis wiring diagram in WIRING DIAGRAM section.